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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/780,876

02/19/2004

Yoshio Iimura

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03/12/2008

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EXAMINER

HAMO, PATRICK

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

03/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/780,876 | Applicant(s) IIMURA ET AL. | |
| | Examiner PATRICK HAMO | Art Unit 3746 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 7-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>23 Dec 05, 30 Jun 06, 28 Aug 07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to a reply filed on November 30, 2007.

Election/Restrictions

Claims 7-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 30, 2007.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "multistageously" used in claims 1 and 2 (p. 55, ll. 15 and 21) is not a term known in the art and the scope of the term is unclear in view of the applicant's disclosure. In the specification and in claim 2, the applicant seems to define multistageously as having a plurality of values such as 0, N, 2N..., nN, where n is an arbitrary number. However, it is not clear if N is the same value in each of these stages making each stage exactly N greater than the stage preceding it, especially in view of

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the use of the phrase “such as”, which further makes claim 2 indefinite and makes the definition of multistageously indefinite as well. Furthermore, in the case that n is 1, it seems that the stages correspond to off and on stages, which would make any motor operate multistageously, a consequence inconsistent with the rest of the disclosure and further confounding the examiner as to the intended definition of the term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hartwig et al., Pat. No. 4,492,526.

Hartwig discloses an air compressor, comprising: a tank portion 106 for reserving compressed air; a compressed air generation portion 101 for generating compressed air and supplying said compressed air to said tank portion; a drive portion including a motor 23 for driving said compressed air generation portion; a control circuit portion 10 for controlling said drive portion; and a pressure sensor 109 for detecting pressure of said compressed air reserved in said tank portion; wherein said control circuit portion includes a unit for controlling the rotational speed of said motor multistageously on the basis of a detection signal output from said pressure sensor, wherein the rotational

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speed of said motor is set multistageously to have a plurality of values such as 0, N, 2N, 3N, . . . , and nN (in which n is an arbitrary number, understood to include n=1); and one of said values is selected by said control circuit portion to thereby control said motor (col. 2, ll. 8-56).

Claims 3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hideyuki et al., JP 63-113189.

Hideyuki discloses an air compressor, comprising: a tank portion for reserving compressed air used in a pneumatic tool; a compressed air generation portion for generating compressed air and supplying said compressed air to said tank portion; a drive portion including a motor 6 for driving said compressed air generation portion; and a control circuit portion for controlling said drive portion; wherein the control circuit portion includes a unit for calculating internal pressure P of said tank portion on the basis of a detection signal output from a pressure sensor 18 (typical operation of a pressure sensor wherein the signal received from the sensor is translated into a numerical value- with the presence of a sensor and a control circuit receiving a signal from the sensor, this feature is inherent), calculating the rate $\Delta P/\Delta T$ of pressure change ΔP to predetermined time ΔT and deciding the rotational speed of said motor on the basis of at least one of the pressure P and the rate $\Delta P/\Delta T$ of pressure change (see fig. 6), and a method of controlling the air compressor comprising : detecting pressure P of said compressed air reserved in said tank portion; calculating the rate $\Delta P/\Delta T$ of change ΔP in pressure P to predetermined time ΔT ; and deciding the rotational speed of said

motor of said drive portion on the basis of at least one of the pressure P of said tank portion and the rate $\Delta P/\Delta T$ of pressure change (see figs. 6-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hideyuki, as applied to claims 3 and 5 above, in view of Meza et al., Pat. No. 7,083,392.

Hideyuki discloses all of the limitations substantially as claimed except for memory for storing information indicating relations among the pressure P, the rate $\Delta P/\Delta T$ and the rotational speed N and searching for the rotational speed by referring to a table stored in the memory.

However it is well known in the art to use memory such as a computer hard disk to store pertinent data in control systems in order to retrieve the data for operation of the control system. Meza is just one such teaching of this principle. In Meza, the sensed voltage of a battery controls the operation of a compressor motor and is obtained from a look-up table stored in memory (col. 16, l. 60 – col. 17, l. 3). Therefore, it would have been obvious to one of ordinary skill in the art to have applied the technique of using

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storable media to store pertinent data as taught by Meza to the compressor control system of Hideyuki.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/
Primary Examiner, Art Unit 3746

PH